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Where ideas connect

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Division of Air Quality

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DAQE-IN0648002-03

October 2, 2003

Dennis Sorensen
Deputy Warden for Support Services
Central Utah Correctional Facility
P.O. Box 898
Gunnison, Utah 84634

Dear Mr. Sorensen:

Re: Intent to Approve: Addition of a Diesel Powered Standby Generator, Sanpete County, CDS SM; ATT, NSPS, Title V Area
Project Code: N0648-002

The attached document is the Intent to Approve (ITA) for the above-referenced project. ITAs are subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Enqiang He. He may be reached at (801) 536-4000.

Sincerely,

Rusty Ruby, Manager
New Source Review Section

RR:EH:jc

cc: Central Utah Public Health Department

Mike Owens, EPA Region VIII

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Addition of a Diesel Powered Standby Generator

Prepared By: Enqiang He, Engineer
(801) 536-4000
Email: ehe@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0648002-03

Date: October 2, 2003

Central Utah Correctional Facility

Source Contact
Dennis Sorensen
(435) 528-6369

Richard W. Sprott
Executive Secretary
Utah Air Quality Board

Abstract

Utah Division of Facilities Construction and Management operates the Central Utah Correctional Facility at Gunnison in Sanpete County. The facility is located in an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. The Division has requested approval for installation of an emergency generator. The generator will use fuel oil #1 and/or #2 as fuel and will be limited to 200 hours of operation a year. New Source Performance Standards (NSPS) and Title V of the 1990 Clean Air Act apply to this source. The emission increases, in tons per year, are as follows: PM_{10} 0.13, NO_x 2.26, SO_2 0.50, CO 2.79, VOC 0.33. The increases in emissions will result in the following potential to emit totals: PM_{10} 1.08, NO_x 21.93, SO_2 27.82, CO 9.90, and VOC 0.61.

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-4. A notice of intent to approve will be published in the Manti Messenger on October 9, 2003. During the public comment period the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing it will be held in accordance with UAC R307-401-4. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This Approval Order (AO) applies to the following company:

Site Office	Corporate Office Location
Central Utah Correctional Facility	Utah Division of Facility Construction and Management
255 East 300 North	4110 State Office Building
Gunnison, Utah 84634	Salt Lake City, Utah 84114
Phone Number (435) 528-6469	(801) 538-3270
Fax Number (435) 528-6303	(801) 538-3267

The equipment listed in this AO shall be operated at the following location:

255 East 300 North, Gunnison, Utah; Sanpete County

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27
4,334.2 kilometers Northing; 429.0 kilometers Easting; Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.

4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401-1.

5. All records referenced in this AO or in applicable NSPS, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for the following minimum periods:

A.	Emission inventories	Five years from the due date of each emission statement or until the next inventory is due, whichever is longer.
B.	All other records	Two years

6. Central Utah Correctional Facility shall operate the correctional facility in accordance with the terms and conditions of this AO, which was written pursuant to Central Utah Correctional Facility's Notices of Intent submitted previously to the Division of Air Quality (DAQ), the Notice of Intent submitted to the DAQ on June 30, 2003, and additional information submitted to the DAQ on July 8, 2003.

7. This AO shall replace the AO (DAQE-190-98) dated March 17, 1998.

8. The approved installations shall consist of the following equipment:

A. One (1) Coal fired boiler rated at 24,000-lbs/hr output - The boiler shall be equipped with a baghouse to control PM_{10} emissions.

B. One (1) Coal handling system and ash handling system

C. One (1) Natural Gas/Oil Fired Boiler rated at 27 MMBtu/hr heat input

D. One (1) Natural Gas/Oil Fired Boiler rated at 16.75 MMBtu/hr heat input

E. Four (4) Diesel Powered Standby Generators rated at 1025 kW*, 600 kW, 500 kW, and 200 kW

F. One (1) Woodshop with dust collection system that vents inside the building

* New equipment.

9. The baghouse shall control process streams from the coal fired boiler. All exhaust air from the coal-fired boiler shall be routed through the baghouse before being vented to the atmosphere.

10. A manometer or magnehelic pressure gauge shall be installed to measure the differential pressure across the baghouse. Static pressure differential across the baghouse shall be between 1/4 to 4 inches of water column. The pressure gauge shall be located such that an inspector /operator can safely read the indicator at any time. The accuracy of the pressure gauge shall be within plus or minus 4% of the reading. The instrument shall be calibrated according to the manufactures instructions. Recording of the reading is required on a daily basis.

Limitations and Tests Procedures

11. Visible emissions from the following emission points shall not exceed the following values:

A. Coal fired boiler (baghouse) - 20% opacity
B. Coal handling system - 10% opacity
C. Natural gas fired boiler - 10% opacity
D. Ash handling system - 10% opacity
E All diesel engines and boilers when using diesel fuel- 20% opacity
F. All other points - 20% opacity

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

For equipment subject to NSPS, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9.

12. Emissions to the atmosphere at all times from the indicated emission point shall not exceed the following rate and concentration:

Source: Coal Fired Boiler Stack

Pollutant	lb/hr	grains/dscf (68? F, 29.92 in Hg)
PM_{10}	0.77	0.02

13. Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:

A.

Emissions Point	Pollutant	Testing Status	Test Frequency
Coal Fired Boiler Stack	PM_{10}	*	@

B. Testing Status (To be applied above)

* Initial testing was required and has been performed.

@ Test every five years.

C. Notification

The Executive Secretary shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary.

The source test protocol shall be approved by the Executive Secretary prior to performing the test. The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary.

D. Sample Location

The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.

E. Volumetric Flow Rate

40 CFR 60, Appendix A, Method 2 or other testing methods approved by the Executive Secretary.

F. PM_{10}

For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201, 201a, or other testing methods approved by the Executive Secretary. The back half condensibles shall also be tested using the method specified by the Executive Secretary. All particulate captured shall be considered PM_{10}.

For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate, or other testing methods approved by the Executive Secretary. The back half condensibles shall also be tested using the method specified by the Executive Secretary. The portion of the front half of the catch considered PM_{10} shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Executive Secretary.

The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

G. Calculations

To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary, to give the results in the specified units of the emission limitation.

H. Existing Source Operation

For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

14. The following hours of operation and consumption limits shall not be exceeded:

A. Coal - 2000 tons per rolling 12-month period

B. Natural Gas - 3×10^6 scf per rolling 12-month period (assume coal fired down time at worst case for six months)

C. 200 hours of operation per rolling 12-month period per each diesel fired standby generator (for maintenance and electrical power generation)

D. 200 hours of operation per rolling 12-month period for boiler rated at 27 million BTU/hr heat input when operating on diesel fuel

E. 100 hours of operation per rolling 12-month period for boiler rated at 16.75 million BTU/hr heat input when operating on diesel fuel

Compliance with the limitations shall be determined on a rolling 12-month total. The owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of hours of operation shall be kept for all periods when the plant is in operation. Records of consumption and hours of operation, including rolling 12-month totals, shall be made available to the Executive Secretary or Executive Secretary's representative upon request and the records shall include the two-year period prior to the date of the request. Coal consumption shall be determined by the coal sales invoices. Natural gas consumption shall be determined by examination of meter records and billing records. Hours of operation for maintenance and electricity production modes of operation for diesel standby generators shall be determined by supervisor monitoring and maintaining of an operations log or an hour meter installed on each standby diesel powered generator. The records of hours of operation and coal shall be kept on a monthly basis. The records of natural gas consumption for the boilers shall be kept on daily basis. The record of hour's operation for the boilers when using diesel fuel shall be kept on monthly basis.

Fuels

15. The owner/operator shall use only coal in the coal fired boiler, fuel oil #1 and/or #2 in the standby generators, natural gas in the natural gas fired boilers as a primary fuel, and fuel oil #1 and/or #2 as a backup fuel in the natural gas boilers during the curtailment periods.

16. The sulfur content of any coal or any mixture of coals burned shall not exceed 1.0 pound of sulfur per million BTU heat input. Sulfur content shall be determined by ASTM Method D-3177-75. The sulfur content shall be tested if directed by the Executive Secretary. Coal analysis data shall be kept on site.

17. The sulfur content of fuel oil #1 and #2 shall not exceed 0.5 percent by weight. Sulfur content shall be decided by ASTM Method D-4294-89, or approved equivalent. The sulfur content shall be tested if directed by the Executive Secretary.

Federal Limitations and Requirements

18. In addition to the requirements of this AO, all provisions of 40 CFR 60, New Source Performance Standards (NSPS) Subparts A and Dc, 40 CFR 60.1 to 60.18 and 40 CFR 60.40c to 60.48c (Standards of Performance for Small Institutional Industrial Steam Generating Units) apply to this installation

Records & Miscellaneous

19. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.

20. The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring.

21. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:
http://www.deq.state.ut.us/eqair/aq_home.htm

The annual emissions estimations below include the equipment listed in Condition #8. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, non-attainment area, maintenance area, and Title V source requirements of the R307. They are not to be used for determining compliance.

The Potential To Emit (PTE) emissions for Central Utah Correctional Facility are currently calculated at the following values:

	Pollutant	Tons/yr
A.	PM_{10}	1.08
B.	SO_2	27.82
C.	NO_x	21.93
D.	CO	9.90
E.	VOC	0.61

The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final Approval Order.

Sincerely,

Rusty Ruby, Manager
New Source Review Section